

## SEQUENCE LISTING

<110> Bettiol, Jean-Luc P.
Thoen, Christiaan AJK

<120> Detergent Compositions Comprising a Mannanase and a Soil Release Polymer

<130> Mannanase and soil release polymer

<140> 09/485,650

<150> PCT/US98/12027

<151> 1998-06-10

<141> 2000-02-14

<160> 6

<170> PatentIn Ver. 2.1

<210> 1 <211> 1482 <212> DNA <213> Bacillus sp.

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<212> PRT

<213> Bacillus sp.

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Gln Pro Phe Val Met Arg Gly Ile Asn His Gly His Ala Trp Tyr Lys
50 55 60

Asp Thr Ala Ser Thr Ala Ile Pro Ala Ile Ala Glu Gln Gly Ala Asn 65 70 75 80

Thr Ile Arg Ile Val Leu Ser Asp Gly Gly Gln Trp Glu Lys Asp Asp 85 90 95

Ile Asp Thr Ile Arg Glu Val Ile Glu Leu Ala Glu Gln Asn Lys Met
100 105 110

Val Ala Val Val Glu Val His Asp Ala Thr Gly Arg Asp Ser Arg Ser 115 120 125

Asp Leu Asn Arg Ala Val Asp Tyr Trp Ile Glu Met Lys Asp Ala Leu 130 135 140

Ile Gly Lys Glu Asp Thr Val Ile Ile Asn Ile Ala Asn Glu Trp Tyr 145 150 155 160

Gly Ser Trp Asp Gly Ser Ala Trp Ala Asp Gly Tyr Ile Asp Val Ile 165 170 175

Pro Lys Leu Arg Asp Ala Gly Leu Thr His Thr Leu Met Val Asp Ala 180 185 190

Ala Gly Trp Gly Gln Tyr Pro Gln Ser Ile His Asp Tyr Gly Gln Asp

- Val Phe Asn Ala Asp Pro Leu Lys Asn Thr Met Phe Ser Ile His Met
  210 220
- Tyr Glu Tyr Ala Gly Gly Asp Ala Asn Thr Val Arg Ser Asn Ile Asp 225 230 235 240
- Arg Val Ile Asp Gln Asp Leu Ala Leu Val Ile Gly Glu Phe Gly His 245 250 255
- Arg His Thr Asp Gly Asp Val Asp Glu Asp Thr Ile Leu Ser Tyr Ser 260 265 270
- Glu Glu Thr Gly Trp Leu Ala Trp Ser Trp Lys Gly Asn Ser 275 280 285
- Thr Glu Trp Asp Tyr Leu Asp Leu Ser Glu Asp Trp Ala Gly Gln His 290 295 300
- Leu Thr Asp Trp Gly Asn Arg Ile Val His Gly Ala Asp Gly Leu Gln 305 310 315 320
- Glu Thr Ser Lys Pro Ser Thr Val Phe Thr Asp Asp Asn Gly Gly His 325 330 335
- Pro Glu Pro Pro Thr Ala Thr Thr Leu Tyr Asp Phe Glu Gly Ser Thr 340 345 350
- Gln Gly Trp His Gly Ser Asn Val Thr Gly Gly Pro Trp Ser Val Thr 355 360 365
- Glu Trp Gly Ala Ser Gly Asn Tyr Ser Leu Lys Ala Asp Val Asn Leu 370 380
- Thr Ser Asn Ser Ser His Glu Leu Tyr Ser Glu Gln Ser Arg Asn Leu 385 390 395 400
- His Gly Tyr Ser Gln Leu Asn Ala Thr Val Arg His Ala Asn Trp Gly
  405 410 415
- Asn Pro Gly Asn Gly Met Asn Ala Arg Leu Tyr Val Lys Thr Gly Ser 420 425 430
- Asp Tyr Thr Trp His Ser Gly Pro Phe Thr Arg Ile Asn Ser Ser Asn 435 440 445
- Ser Gly Thr Thr Leu Ser Phe Asp Leu Asn Asn Ile Glu Asn Ser His

His Val Arg Glu Ile Gly Val Gln Phe Ser Ala Ala Asp Asn Ser Ser 465 470 475 480

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<211> 468

<212> PRT

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Ser	Thr	Gly 35	Phe	Tyr	Val	Asp	Gly 40	Asn	Thr	Leu	Tyr	Asp 45	Ala	Asn	Gly
Gln	Pro 50	Phe	Val	Met	Arg	Gly 55	Ile	Asn	His	Gly	His 60	Ala	Trp	Tyr	Lys
A⁄sp 65	Thr	Ala	Ser	Thr	Ala 70	Ile	Pro	Ala	Ile	Ala 75	Glu	Gln	Gly	Ala	Asn 80
Thr	Ile	Arg	Ile	Val 85	Leu	Ser	Asp	Gly	Gly 90	Gln	Trp	Glu	Lys	Asp 95	Asp
Ile	Asp	Thr	Ile 100	Arg	Glu	Val	Ile	Glu 105	Leu	Ala	Glu	Gln	Asn 110	Lys	Met
Val	Ala	Val 115	Val	Glu	Val	His	Asp 120	Ala	Thr	Gly	Arg	Asp 125	Ser	Arg	Ser
Asp	Leu 130	Asn	Arg	Ala	Val	Asp 135	Tyr	Trp	Ile	Glu	Met 140	Lyś	Asp	Ala	Leu
Ile 145	Gly	Lys	Glu	Asp	Thr 150	Val	Ile	Ile	Asn	Ile 155	Ala	Asn	Glu	Trp	Tyr 160
Gly	Ser	Trp	Asp	Gly 165	Ser	Ala	Trp	Ala	Asp 170	Gly	Tyr	Ile	Asp	Val 175	Ile
Pro	Lys	Leu	Arg 180	Asp	Ala	Gly	Leu	Thr 185	His	Thr	Leu	Met	Val 190	Asp	Ala
Ala	Gly	Trp 195	Gly	Gln	Tyr	Pro	Gln 200	Ser	Ile	His	Asp	Tyr 205	Gly	Gln	Asp
Val	Phe 210	Asn	Ala	Asp	Pro	Leu 215	Lys	Asn	Thr	Met	Phe 220	Ser	Ile	His	Met
Tyr 225	Glu	Tyr	Ala	Gly	Gly 230	Asp	Ala	Asn	Thr	Val 235	Arg	Ser	Asn	Ile	Asp 240
Arg	Val	Ile	Asp	Gln 245	Asp	Leu	Ala	Leu	Val 250	Ile	Gly	Glu	Phe	Gly 255	His

Arg His Thr Asp Gly Asp Val Asp Glu Asp Thr Ile Leu Ser Tyr Ser

260 265 270

Glu Glu Thr Gly Thr Gly Trp Leu Ala Trp Ser Trp Lys Gly Asn Ser 275 280 285

Thr Glu Trp Asp Tyr Leu Asp Leu Ser Glu Asp Trp Ala Gly Gln His
290 295 300

Leu Thr Asp Trp Gly Asn Arg Ile Val His Gly Ala Asp Gly Leu Gln 305 310 315 320

Glu Thr Ser Lys Pro Ser Thr Val Phe Thr Asp Asp Asn Gly Gly His
325 330 335

Pro Glu Pro Pro Thr Ala Thr Thr Leu Tyr Asp Phe Glu Gly Ser Thr 340 345 350

Gln Gly Trp His Gly Ser Asn Val Thr Gly Gly Pro Trp Ser Val Thr 355 360 365

Glu Trp Gly Ala Ser Gly Asn Tyr Ser Leu Lys Ala Asp Val Asn Leu 370 380

Thr Ser Asn Ser Ser His Glu Leu Tyr Ser Glu Gln Ser Arg Asn Leu 385 390 395 400

His Gly Tyr Ser Gln Leu Asn Ala Thr Val Arg His Ala Asn Trp Gly
405 410 415

Asn Pro Gly Asn Gly Met Asn Ala Arg Leu Tyr Val Lys Thr Gly Ser 420 425 430

Asp Tyr Thr Trp His Ser Gly Pro Phe Thr Arg Ile Asn Ser Ser Asn 435 440 445

Ser Gly Thr Thr Leu Ser Phe Asp Leu Asn Asn Ile Glu Asn Ile Ile 450 455 460

Met Leu Gly Lys 465

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His Leu Pro Asn Arg Thr Glu Asn Arg Val Leu Ser Gly Ala Phe Gly 50 55 60

Gly Tyr Ser His Asp Thr Phe Ser Met Ala Glu Ala Asp Arg Ile Arg
65 70 75 80

Ser Ala Thr Gly Gln Ser Pro Ala Ile Tyr Gly Cys Asp Tyr Ala Arg 85 90 95

Gly Trp Leu Glu Thr Ala Asn Ile Glu Asp Ser Ile Asp Val Ser Cys
100 105 110

Asn Gly Asp Leu Met Ser Tyr Trp Lys Asn Gly Gly Ile Pro Gln Ile

115 120 125

Ser	Leů 130	His	Leu	Ala	Asn	Pro 135	Ala	Phe	Gln	Ser	Gly 140	His	Phe	Lys	Thi
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Glu	Gly	Lys	Arg	Leu 165	Asn	Ala	Met	Leu	Ser 170	Lys	Ile	Ala	Asp	Gly 175	Leu
Gln	Glu	Leu	Glu 180	Asn	Gln	Gly	Val	Pro 185	Val	Leu	Phe	Arg	Pro 190	Leu	His
Glu	Met	Asn 195	Gly	Glu	Trp	Phe	Trp 200	Trp	Gly	Leu	Thr	Ser 205	Tyr	Asn	Glr
Lys	Asp 210	Asn	Glu	Arg	Ile	Ser 215	Leu	Tyr	Lys	Gln	Leu 220	Tyr	Lys	Lys	Ile
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Tyr	Ser	Pro	Asp	Ala 245	Asn	Arg	Asp	Phe	Lys 250	Thr	Asp	Phe	Tyr	Pro 255	Gly
Ala	Ser	Tyr	Val 260	Asp	Ile	Val	Gly	Leu 265	Asp	Ala	Tyr	Phe	Gln 270	Asp	Ala
Tyr	Ser	Ile 275	Asn	Gly	Tyr	Asp	Gln 280	Leu	Thr	Ala	Leu	Asn 285	Lys	Pro	Ph∈
Ala	Phe 290	Thr	Glu	Val	Gly	Pro 295	Gln	Thr	Ala	Asn	Gly 300	Ser	Phe	Asp	Tyr
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Phe	Leu	Ala	Trp	Asn 325	Asp	Glu	Trp	Ser	Ala 330	Ala	Val	Asn	Lys	Gly 335	Ala
Ser	Ala	Leu	Tyr 340	His	Asp	Ser	Trp	Thr 345	Leu	Asn	Lys	Gly	Glu 350	Ile	Trp
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